Statewide Data Program Needs Assessment

Watermaster Program

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Program Description

The California Water Plan prepares water balances (portfolios) for the entire State.

Data Needs

The data needs are immense

Land Use
- Crop type
- Irrigation method
- Water source
- Management practice
- Power source (GW and lift pumps)
- Diversion location

Water Management entity boundaries
Air Photography (NAIP)

AG MODEL - Products = 1) Consumptive Use 2) Applied Water by crop by DAU/county

Precipitation (NOAA, CIMIS, WEM CLIMATE OBSERVOR, CLIMATE STORAGE GAGES)
Soil surveys (nrcs)
Crop coefficients
Pan evaporation, cimis et
Irrigation method (efficiencies)
Acreage from land use, local water purveyors
Infiltration (scs method, soils properties)
Drought conditions, documentation
Managed Wetlands - = 1) Consumptive Use 2) Applied Water by refuge by habitat
Habitat types, acreage
Water source/supply
management characteristics/scheduling
precipitation
soils
habitat coefficient

Drought condition
Infiltration
Flow through by field
Outflow from wetland
Urban - 1) Consumptive Use 2) Applied Water 3) Per capita use by DAU/county by water delivery class type
PWSS data
Verification of PWSS data
Urban boundaries
Census tract data
Population estimates
Water sources
Water recycling/reuse
Waste water treatment
Landscape mapping
System losses
Service area coverage
High water using industrial
Self-produced
Supply 1) estimates of all supply sources including reuse
Surface/groundwater data WEM, NORCAL
Applied water method (based on land use derived water use)
Local deliveries and annual reports of operations
USGS surface water data
USBR diversion data
SWP
Other – federal (USACE, etc)
Groundwater pumping
Watermaster diversions
CDEC (diversions, reservoir evaporation)
Water balances – products water portfolio data
Supplies and uses and reuses
Water conveyance system characteristics (operations, spills, lined, unlined, management)
Drainage and runoff characteristic data
Deep percolation
Riparian consumptive use
Historic diversions (non measured currently measured - B130)
Water Portfolios
Reservoir evaporation
Instream flows (USGS
Change in groundwater storage
Basin boundaries
Groundwater monitoring network (long term)
Groundwater levels and dedicated wells
Spec aquifer yield

Density of grid and frequency of monitoring
Change in groundwater levels
Change in reservoir storage
Inflow to state (USGS, USBR, etc.)

Who uses the data?
Bay-delta Office – CalSIM, C2VSIM
SWPAO
USBR – Water Transfers
IRWM, regional IRWM groups
Drought response – economics, CALAG model
Consultants/Partners/Universities/NGOs

Data Management

Unmet Needs

Apportioning Costs

Other Issues